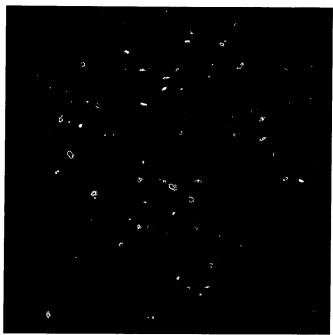


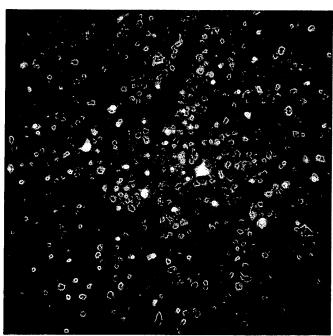
Labelled retinal ganglion cells in the Normal central retina

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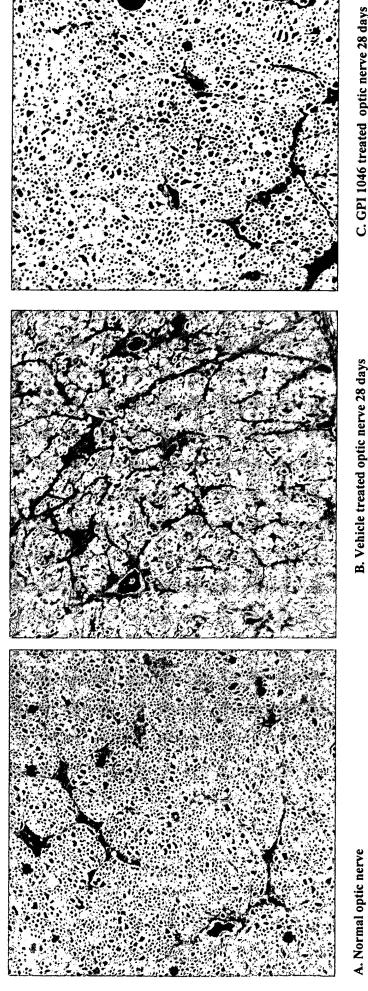


B. 1 hour of retinal ischemia produces extensive loss of ganglion cells



B. Administration of GPI 1046 1 hour before retinal ischemia and for 4 days subsequently produces significant protection of vulnerable retinal ganglion cells

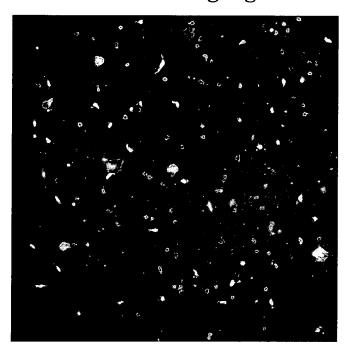
GPI 1046 Protects retinal ganglion cell axons and prevents myelin degeneration in the optic nerve induced by 1 hour of complete retinal ischemia, toluidine blue stained optic nerve cross sections, 630X



C. GPI 1046 treated optic nerve 28 days after 1 hour complete retinal ischemia

after 1 hour complete retinal ischemia

# GPI 1046 administration for 28 days provides only moderate protection of axotomized retinal ganglion cells



Florogold labelled RGCs 90 days following transection, Treatment with vehicle alone for 1<sup>st</sup> 28 days

Florogold labelled RGCs 90 days following transection, Treatment with GPI 1046 for 1st 28 days Treatment with vehicle alone for 1st 28 days

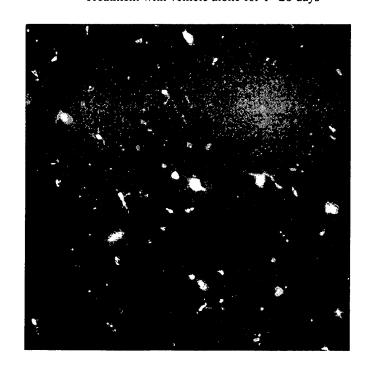


Figure 4

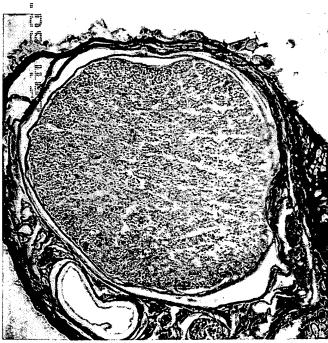
# GPI 1046 prevents axonal degeneration in the proximal stump of the optic nerve RT97 neurofilament immunohistochemistry, optic nerve cross sections, 90 days after complete transection



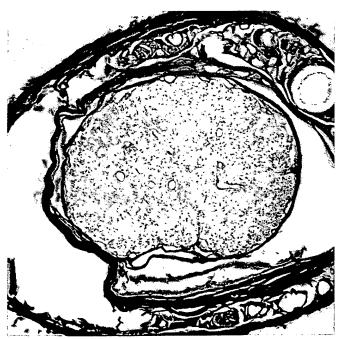
A. Sham



B. Optic nerve transection (ONT) 90 days survival



C. optic nerve 90 days after transection, GPI 1046 treatment days 1-28

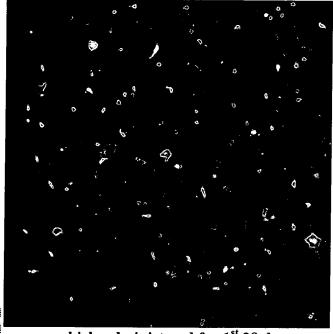


D. optic nerve 90 days after transection, GPI 1046 treatment days 1-14

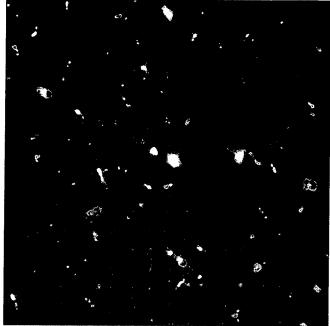
Figure 5

# GPI 1046 administration for 28 days provides only moderate protection of axotomized retinal ganglion cells

Florogold labelled retinal ganglion cells 90 days following transection



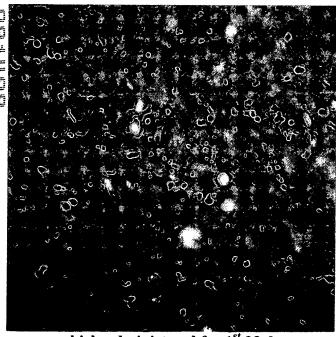
vehicle administered for 1st 28 days



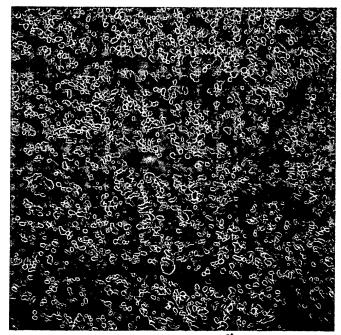
GPI 1046 administered for 1st 28 days

### GPI 1046 administration for 28 days preserves optic nerve axons of surviving retinal ganglion cells

RT 97 neurofilament immunohistochemistry 90days after transection

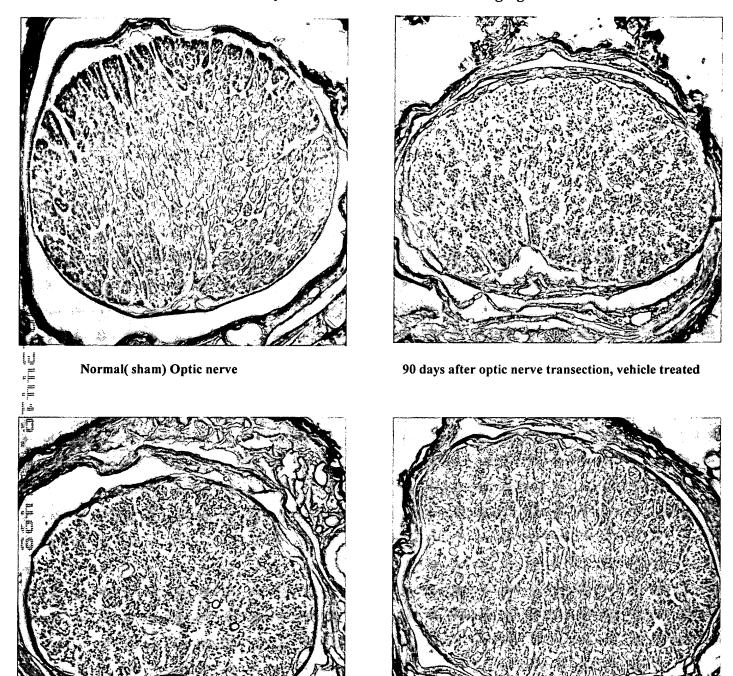


vehicle administered for 1st 28 days



GPI 1046 administered for 1st 28 days

### Preservation of myelin in the proximal stump of the optic nerve 90 days after transection 14 vs 28 days treatment with GPI 1046 10mg/kg s.c.



myelin basic protein immunohistochemistry (SMI-94), 20X

90 days after optic nerve transection, 28 days GPI 1046

90 days after optic nerve transection, 14 days GPI 1046

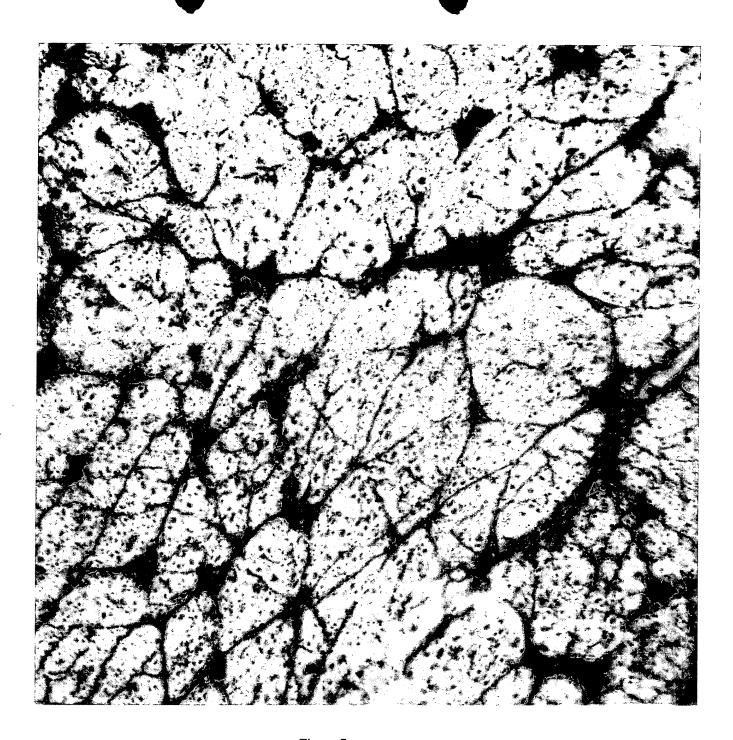
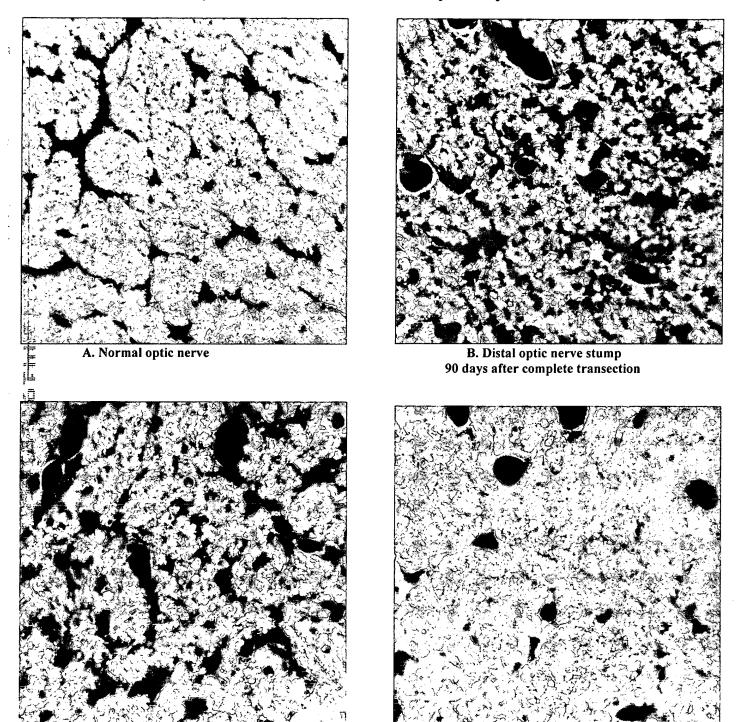


Figure 7
FKBP-12 immunohistochemistry labels oligodendroglia and axons in the normal optic nerve

Figure 8

#### GPI 1046 treatment prevents myelin degeneration in the distal stump of the optic nerve Myelin basic protein immunohistochemistry 90 days after transection



D. Distal optic nerve stump

90 days after complete transection

GPI 1046 administered 1-28 days

after transection

C. Distal optic nerve stump

90 days after complete transection

GPI 1046 administered 1-14 days

after transection



## GPI 1046 decreases neovascularization and prevents neuronal loss in the inner retinal in the Streptozotocin model of diabetic retinopathy

A. Normal retina
Cross section
Cresyl violet

Outer Nuclear layer (ONL)

Inner Nuclear layer(INL)

Ganglion cell layer (GCL)



ONL

INL

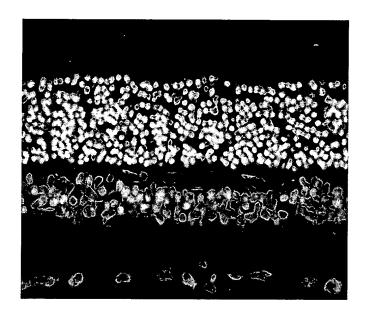
**GCL** 

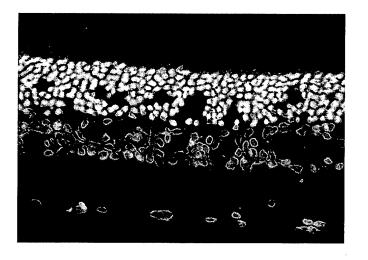


ONL

INL

**GCL** 







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